IFW AF

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Mail Stop Appeal Brief- Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Appeal Brief-Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on December 31, 2008
(Date of Deposit)

Harold C. Moore
Name of person mailing Document or Fee

Signature

December 31, 2008
Date of Signature

Re:	Application of:	Saieb Alrawi et al.
	Serial No.:	09/748,720
	Filed:	December 26, 2000
	For:	Excessive Surge Protection Method and Apparatus
	Group Art Unit:	2836
	Examiner:	Danny Nguyen
	Our Docket No.:	1505-0094

TRANSMITTAL OF BRIEF ON APPEAL

Please find for filing in connection with the above patent application the following documents:

1. Brief on Appeal;

2. Check in the amount of $30.00; and

3. One (1) return post card.

* The fee has been calculated as shown below.

A total of $510.00 of the $540.00 Fee is being applied from previously paid appeal brief feeds. Enclosed please find a check in the amount of $30.00 to cover the remainder of the Appeal Brief filing fee. Please charge any fee deficiency, or credit any overpayment, to Deposit Account No. 13-0014; but not to include any payment of issue fees.

Respectfully Submitted,

MAGINOT, MOORE & BECK

December 31, 2008

Harold C. Moore
Registration No. 37,892
Chase Tower
111 Monument Circle, Suite 3250
Indianapolis, Indiana 46204-5109

Enclosures

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Mail Stop Appeal Brief
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Appeal Brief, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 2231301450 on December 31, 2008
(Date of Deposit)

Harold C. Moore
Name of person mailing document or fee

Signature

December 31, 2008
Date of Signature

Re:	Application of:	Saieb Alrawi et al.
	Serial No.:	09/748,720
	Filed:	December 26, 2000
	For:	Excessive Surge Protection Method and Apparatus
	Group Art Unit:	2836
	Examiner:	Danny Nguyen
	Our Docket No.:	1505-0094

BRIEF ON APPEAL

Sir:

This is an appeal under 37 CFR ß 1.191 to the Board of Patent Appeals and Interferences of the United States Patent and Trademark Office from the rejection of claims 2-5, 24-38 of the above-identified patent application. These claims were indicated as rejected in an Office Action dated September 3, 2008. These claims have been rejected at least twice. Please apply the $510.00 submitted with a previous Brief on Appeal (filed November 13, 2007), as well as the enclosed check in the amount of $30.00, to cover the fee required under 37 C.F.R. §1.17(f). Also, please provide any extension of time which may be necessary and charge any fees which may be due to Deposit Account No. 13-0014, but not to include any payment of issue fees.

(1) REAL PARTY IN INTEREST

Landis+Gyr Inc. is the owner of this patent application, and therefore the real party in interest.

(2) RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences related to this patent application.

(3) STATUS OF CLAIMS

Claims 1-5 and 24-38 are pending in the application. Claims 6-23 have been withdrawn from consideration.

Claims 1-5 and 24-38 stand rejected. Claims 2-5 and 24-38 form the subject matter of this appeal. Claims 1-5 and 24-38 are shown in the Appendix attached to this Appeal Brief.

(4) STATUS OF AMENDMENTS

Applicants filed a Response to Office Action dated May 6, 2003 ("First Response") responsive to an Office Action dated November 6, 2002. A final Office Action dated July 23, 2003 was designated by the Examiner to be responsive to the First Response. Applicants filed an Appeal Brief on December 22, 2003. In response to the Appeal Brief, the Examiner re-opened prosecution and issued an Office Action dated March 26, 2004.

Applicants filed a Supplemental Appeal Brief on July 26, 2004. In response to the Supplemental Appeal Brief, the Examiner again re-opened prosecution and issued an Office Action dated October 19, 2004.

Applicants filed a Second Supplemental Appeal Brief on January 19, 2005. After over ten (10) months, the Applicants received a Notice of Non-Compliant Appeal Brief dated November 23, 2005. Applicants re-filed the Second Supplemental Appeal Brief on

December 23, 2005. In response to the second filing of Second Supplemental Appeal Brief, the Examiner again re-opened prosecution and issued an Office Action dated March 9, 2006. Applicants filed a Response to Office Action July 10, 2006, and re-filed the Response to Office Action November 10, 2006 pursuant to a Notice of Non-Compliant Amendment. Over five months later, the Examiner issued a final office action on April 12, 2007 ("Second Final Office Action").

Applicants thereafter appealed again. An Appeal Brief was filed on November 13, 2007. In response to various Notices of Non-Compliance, the Appeal Brief was filed again on January 7, 2008, and again on May 30, 2008.

For the fourth time during the prosecution of this case, the Examiner withdrew the case from Appeal and re-opened prosecution, issuing an office action dated September 3, 2008 ("Fourth Post-Appeal Action")

(5) SUMMARY OF THE CLAIMED SUBJECT MATTER

Although claim 1 is not under appeal, it is an "independent claim involved in the appeal" because several appealed claims depend from claim 1. As a result, claim 1 is summarized here below.

Claim 1 is directed to a surge protection apparatus connected between an AC electrical utility power line and a load. While the invention is set forth generally in the claim 1, exemplary embodiments are discussed in the application in connection with Fig. 3. The example of Fig. 3 is not intended to limit interpretation of the scope of the claim, but it merely provided to satisfy the requirements of 41.37(c)(v).

The surge protection apparatus of claim 1 includes a voltage input directly coupled to the AC electrical utility power line, the AC electrical utility power line having a nominal AC voltage of at least about 120 volts. With reference to Fig. 3 of the application the surge protection apparatus 11 includes a voltage input 7 connected to the voltage source 2, which is a utility power line. (Specification at p.7, lines 9-22).

The claimed apparatus also includes an inductor coupled between the

voltage input and the load. With reference to Fig. 3 of the application, an inductor 8 is series connected between the voltage input 7 and the load 6, via a resistor 14, and a PPTC 3. The resistor and PPTC are not claimed in claim 1. (*Id.*)

The claimed apparatus also includes a protective barrier interposed between the inductor and the load, the protective barrier configured to physically isolate the inductor from the load. With reference to Fig. 3, the surge protection device 11 includes a protective barrier 10 that separates or isolates the inductor 8 (and other things) from the load 6. The protective barrier 10 may take infinitely various forms, but basically includes a wall, sleeve or compartment constructed of inflammable material, such as, for example, certain plastics. (Application at p.9, lines 11-15).

Claim 2 is directed to a surge protection apparatus connected between an AC electrical utility power line and a load. The apparatus includes a voltage input directly coupled to the AC electrical utility power line, the AC electrical utility power line having a nominal AC voltage of at least about 120 volts. With reference to the non-limiting example of Fig. 3 of the application, the surge protection apparatus 11 includes a voltage input 7 connected directly to the voltage source 2, which is a utility power line. (Specification at p.7, lines 9-22).

The apparatus of claim 2 also includes an polymeric positive temperature coefficient device (PPTC) coupled between the voltage input and the load. With reference to Fig. 3 of the application, a PPTC 3 is series connected between the voltage input 7 and the load 6, via a resistor 14, and an inductor 8. The resistor and inductor are not claimed in claim 2. (*Id.*)

The invention of claim 2 includes a protective barrier interposed between the PPTC and the load, the protective barrier configured to physically isolate the PPTC from the load. With reference to Fig. 3, the surge protection device 11 includes a protective barrier 10 that separates or isolates the PPTC 3 (and other things) from the load 6. The protective barrier 10 may take infinitely various forms, but basically includes a wall, sleeve or compartment constructed of inflammable material, such as, for example, certain plastics. (Application at p.9, lines 11-15).

Claim 4 is directed to a surge protection apparatus connected between an electrical power line and a load. The apparatus includes a voltage input coupled to the electrical power line. With reference to Fig. 3 of the application the surge protection apparatus 11 includes a voltage input 7 connected to the voltage source 2, which is a utility power line. (Specification at p.7, lines 9-22).

The apparatus of claim 4 also includes an inductor, a separate resistor, and a polymeric positive coefficient temperature device (PPTC) coupled in series between the voltage input and the load. With reference to Fig. 3 of the application, an inductor 8, a resistor 14 and a PPTC are connected in series connected between the voltage input 7 and the load 6. (*Id.*)

Claim 32 is directed to a surge protection apparatus connected between an electrical power line source and a load. The apparatus includes a voltage input coupled to the electrical power line. With reference to the non-limiting example of Fig. 3 of the application, the surge protection apparatus 11 includes a voltage input 7 connected directly to a voltage source 2, which is a utility power line. (Specification at p.7, lines 9-22).

The claimed apparatus also includes an inductor coupled between the voltage input and the load. With reference to Fig. 3 of the application, an inductor 8 is series connected between the voltage input 7 and the load 6, via a resistor 14, and a PPTC 3. The resistor and PPTC are not claimed in claim 32. (*Id.*)

The claimed apparatus also includes a protective barrier interposed between the inductor and the load, the protective barrier configured to physically isolate the inductor from the load. With reference to Fig. 3, the surge protection device 11 includes a protective barrier 10 that separates or isolates the inductor 8 (and other things) from the load 6. As claimed, the protective barrier includes a protective sleeve that receives the inductor. With reference to the embodiment of Fig. 3, the protective barrier 10 may be a sleeve constructed of shrink tube or shrink packaging that surrounds, among other things, the inductor. (Application at p.10, lines 1-4)

Claim 34 is directed to a surge protection apparatus connected between an

electrical power line source and a load. The apparatus includes a voltage input coupled to the electrical power line. With reference to Fig. 3 of the application the surge protection apparatus 11 includes a voltage input 7 connected to the voltage source 2, which is a utility power line. (Specification at p.7, lines 9-22).

The apparatus of claim 34 further includes an inductor and a polymeric positive coefficient temperature device (PPTC) coupled in series between the voltage input and the load, the inductor interposed between the PPTC and the voltage input. With reference to Fig. 3 of the application, an inductor 8, a resistor 14 and a PPTC 3 are connected in series connected between the voltage input 7 and the load 6. (*Id.*) The inductor 8 is interposed between the PPTC 3 and the voltage input. (See Fig. 3).

Claim 37 is directed to a surge protection apparatus connected between an electrical power line and a load. The apparatus includes a voltage input coupled to the electrical power line. With reference to Fig. 3 of the application the surge protection apparatus 11 includes a voltage input 7 connected to the voltage source 2, which is a utility power line. (Specification at p.7, lines 9-22).

The apparatus of claim 37 includes an inductor, a resistor having a resistance of at least about 10 ohms, and a polymeric positive coefficient temperature device (PPTC) coupled in series between the voltage input and the load. With reference to Fig. 3 of the application, an inductor 8, a resistor 14 and a PPTC are connected in series connected between the voltage input 7 and the load 6. (*Id.*) The resistor 14 has at least 10 ohms. (Specification at p.8, lines 15-21).

(6) GROUNDS OF REJECTION TO BE REVIEWED

Whether claim 30 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,845,580 to Kitchens (hereinafter "Kitchens");

Whether claim 32 is unpatentable under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,252,754 to Chaudhry (hereinafter "Chaudhry");

Whether claims 3-5, 24-26, 28, 29 and 34-37 are unpatentable under 35 U.S.C. § 103(a) as being obvious over Kitchens in view of U.S. Patent No. 6,097,246 to Tsurunaga

(hereinafter "Tsurunaga"), further in view of U.S. Patent No. 6,512,444 to Morris, Jr., et al. (hereinafter "Morris");

Whether claims 2 and 31 are unpatentable under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 6,411,486 to Doneghue (hereinafter "Doneghue") in view of Morris.

Whether claim 33 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Chaudhry in view of Morris.

Whether claims 27 and 38 are unpatentable under 35 U.S.C. § 103(a) as being obvious over Kitchens in view of Tsurunaga, Morris and U.S. Patent No. 4,389,695 to Carpenter et al. (hereinafter "Carpenter").

The claims do not stand or fall together.

(7) ARGUMENT

A. The Anticipation Rejection of Claim 30

The Examiner has rejected claim 30 as allegedly being anticipated by Kitchens. (Fourth Post Appeal Action at pp.3-4). Claim 30 depends from claim 1, and further recites the following limitation:

> wherein the protective barrier includes a protective sleeve that receives the inductor.

Kitchens fails to disclose a protective sleeve that receives the inductor. In the Fourth Post Appeal Action, the Examiner has not specifically alleged that Kitchens teaches a sleeve. Instead, the Examiner has only alleged that Kitchens teaches a protective barrier in the form of a housing. The Examiner has not alleged that such protective barrier "includes a protective *sleeve*". (*Id.*) Nothing in Kitchens discloses a housing that includes, or is in the form of, a sleeve.

Moreover, the Examiner has previously admitted that Kitchens fails to teach a protective sleeve, in connection with a prior rejection of claim 32. (April 12, 2007 Final Office Action at p.6) ("Kitchens does not teach a protective sleeve as claimed").

Because Kitchens fails to disclose or suggest a protective sleeve as claimed in claim 30, it is respectfully submitted that the Examiner has not set forth a prima facie

case of anticipation with respect to claim 30. For at least these reasons, the anticipation rejection of claim 30 is in error and should be reversed.

A. The Anticipation Rejection of Claim 32

The Examiner has rejected claim 32 as allegedly being anticipated by Chaudhry. (Fourth Post Appeal Action at p.4). Claim 32 includes the following limitation:

> the protective barrier including a protective sleeve that receives the inductor.

Chaudhry fails to disclose a protective sleeve that receives the inductor. However, the Examiner has alleged that Chaudhry does indeed teach protective sleeve in the Fourth Post Appeal Action. In particular, the Examiner alleges that the enclosure 272 of Chaudhry constitutes a protective sleeve that receives the inductor. (*Id.* at p.5).

Applicants disagree that the enclosure 272 of Chaudhry constitutes a protective *sleeve*. As depicted in Fig. 9 of Chaudhry, the "enclosure 272" is a box-like enclosure that houses a plurality of components. The Examiner is effectively arguing that a box that is full of components, including among them an inductor, constitutes a protective sleeve that receives an inductor. This is not accurate. The box enclosure 272 is not a sleeve. A sleeve, as that term is normally known, is *not* applied to boxes or box-like containers. A sleeve is normally defined as a fitted enclosure, often with an open end.

To this end, it is noted that the applicant has used the term sleeve in a manner that is consistent with the plain meaning. In particular, the specification discusses an exemplary embodiment of a protective sleeve in the form of "shrink tube" or other "shrink packaging element". (Specification at p.10, lines 1-4). These examples fall within the understood meaning of a "fitted" enclosure, as opposed to a box. Moreover, the specification also distinguishes between a "sleeve" and a mere "compartment". (Specification at p.9, lines 13-14).

Accordingly, it is submitted that the Examiner has failed to establish that Chaudhry discloses "a protective sleeve that receives the inductor". Because Chaudhry fails to disclose or suggest a protective sleeve as claimed in claim 32, it is respectfully submitted that the Examiner has not set forth a prima facie case of anticipation with respect to claim 32. For at least these reasons, the anticipation rejection of claim 32 is in

error and should be reversed.

C. The Obviousness Rejections of Claims 3-5, 24-26, 28, 29 and 34-37

Claims 3-5, 24-26, 28, 29 and 34-37 stand rejected as allegedly being obvious over Kitchens, Tsurunaga and Morris. As will be discussed below, there is no legally sufficient reason to combine the references as proposed by the Examiner. For at least this reason, the rejection of all of claims 3-5, 24-26, 28, 29 and 34-37 should be reversed. In addition, as will be discussed below, the rejections of individual claims of claims 3-5, 24-26, 28, 29 and 34-37 should be reversed for additional reasons.

In particular, claims 3-5, 24-26, 28, 29 and 34-37 all recite (or depend on a claim that recites) a polymeric positive temperature coefficient device (PPTC) that is connected in series with the inductor between a voltage source and the load. The Examiner has not set forth a legally sufficient combination that arrives at a device having this feature.

1. No Reason to Combine Kitchens, Tsurunaga and Morris

In the rejection of claim 3, it appears that the Examiner has admitted that Kitchens fails to disclose a PPTC device coupled in series with an inductor as claimed. (See Fourth Post Appeal Action at p.5). Indeed, Kitchens does not appear to show any element in series with the inductor between a power input and a load. (See Kitchens at Figs. 1-5).

To address this deficiency, the Examiner relies on Tsurunaga as teaching a PTC in series with an inductor. (Fourth Post Appeal Action at p.5). However, the PTC of Tsurunaga is not a PPTC, as per claim 3. To address this deficiency, the Examiner appears to contend that Morris teaches a PPTC as a well-known substitute for a PTC. (*Id.* at p.6). Accordingly, the Examiner first alleges that Tsurunaga provides a teaching to modify the circuit of Kitchens by adding a PTC device to the inductor of Kitchens, and that Morris teaches replacing the Tsurunaga PTC with a PPTC.

Applicants submit that the Examiner has not provided a clearly articulate reason to make either modification. In particular, there is no rational reason to modify Kitchens with the teachings of Tsurunaga, nor is there a reason to replace a PTC as taught by

Tsurunaga with a PPTC as taught by Morris.

a. The Examiner has Misinterpreted Tsurunaga

The Examiner has contended that Tsurunaga teaches a PTC device connected in series with an inductor. From this teaching, apparently, the Examiner alleges that one of ordinary skill in the art would know that combining a PTC device *with a series connected inductor* would "provide additional protection" from damage due to high currents. (See Fourth Post Appeal Action at pp.5-6). However, Tsurunaga does not appear to teach or suggest a PTC device and a series connected inductor as a protection device.

Instead, it appears that Tsurunaga teaches the use of a PTC device alone. To this end, it appears that the inductor of Tsurunaga is not a separate device, but rather a modeling of how electrical power lines behave in the event of a short circuit. (Tsurunaga at col. 1, lines 21-25). Thus, Tsurunaga does not teach or suggest connecting an inductor and a PTC device in series to provide "additional protection". Tsurunaga instead teaches use of a PTC device, and only a PTC device, to combat a short circuit in a power line. This is evidenced by the fact that the circuit analysis for the protective device lacks *any* discussion of the affects of the "inductor" of Fig. 1. (*Id.* at col. 1, lines 39-54; col. 2, lines 1-42). If the inductor were a critical or important part of the "additional protection", then Tsurunaga would have provided at least some discussion of its operation and advantages.

As a result, there is no actual teaching suggesting the combination of a PTC device and an inductor device as claimed. Indeed, there is no teaching of adding a PTC device to a circuit that already includes an inductor.

Because the Examiner's rejection appears to be based on an erroneous interpretation of Tsurunaga, and because Tsurunaga does not, in fact, teach connecting a PTC device in series with an inductor, it is respectfully submitted that the Examiner has not provided a legally sufficient reason to modify Kitchens with the teachings of Tsurunaga.

For at least this reason, the Examiner has not established a prima facie case of obviousness based on the proposed combination of Kitchens, Tsurunaga and Morris.

b. No Reason to Replace the Tsurunaga with the PPTC of Morris

Even if one were to modify Kitchens to include the PTC of Tsurunaga, there is no reason to further modify the Kitchens circuit by replacing the PTC of Tsurunaga with the PPTC of Morris.

In particular, Tsurunaga teaches the use of niobium carbide as a PTC device. (Tsurunaga at col. 1 lines 24-32). The Examiner has essentially admitted that a niobium carbide does not constitute a "polymeric positive temperature coefficient" device. (Fourth Post Appeal Action at p.6). However, the Examiner alleges that it would have been obvious to use the PPTC of Morris as a substitute for the PTC device of Tsurunaga because "this is known and taught by Morris". (*Id.*)

However, there is no rational reason to believe that the PTC device of Tsurunaga can be replaced by the PPTC device of Morris. The PTC device of Tsurunaga is a high power device connected in-line with a high voltage, high current circuit to provide current limiting operation. (Tsurunaga at col. 1, lines 11-45). By contrast, the PPTC device of Morris is used as an off-line temperature sensor. More specifically, the PPTC device is *not* used to limit current in a power circuit at all, but rather to act as a temperature sensor for another circuit. (Morris at Fig. 4 and col. 7, lines 26-34). The PPTC device of Morris is not even electrically connected to the circuit in which current is measured or limited. Instead, the PPTC device of Morris is in a separate circuit with a processing device, and is not connected between the "voltage source" and the "load". (*Id.* at Fig. 4).

Accordingly, Tsurunaga and Morris teach completely different applications of marginally related devices. There is no reasonable basis to believe that the PPTC device of Morris may be used as an in-line current-limiting device connected as shown in Tsurunaga.

For at least this reason, the combination of Morris with Kitchens and Tsurunaga is improper.

2. Conclusion as to the Rejections of Claims 3-5, 24-26, 28, 29 and 34-37

The Examiner has not made a prima facie case of obviousness with respect to claims 3-5, 24-26, 28, 29 and 34-37. In particular, the Examiner has not alleged

sufficient reasons to modify Kitchens to include a PPTC device coupled in series with an inductor between a voltage input and load. Firstly, there is no reason to modify Kitchens by adding a PTC device such as that taught by Tsurunaga. Secondly, even if one did employ the PTC device as taught by Tsurunaga, there is no reason to replace that device with the PPTC device of Morris.

For at least these reasons, applicants request that the Board reverse the obviousness rejections of claims 3-5, 24-26, 28, 29 and 34-37.

3. Separate Reasons for Patentability of Claims 24 and 36

The rejection of claims 24 and 36 over Kitchens, Tsurugana, and Morris should be reversed for additional reasons independent of those discussed above. In particular, claims 24 and 36 all include, either directly or indirectly, a limitation directed to a *protective sleeve*. As discussed above in connection with claim 30, Kitchens does not disclose or suggest a "protective sleeve" as claimed. Moreover, none of the modifications of Kitchens proposed by the Examiner in connection with the rejection of claims 24 and 36 address the deficiencies of Kitchens with respect to the protective barrier. (Fourth Post Appeal Action at pp.6-7).

Accordingly, because the proposed combination of Kitchens, Tsurunaga and Morris fails to arrive at the claimed invention including a "protective sleeve" as disclosed, it is respectfully submitted that the rejection of claims 24 and 36 should be reversed for reasons additional to those discussed above.

D. The Obviousness Rejections of Claims 2 and 31

Claims 2 and 31 stand rejected as allegedly being obvious over Doneghue and Morris. As will be discussed below, the proposed combination of Doneghue and Morris does not arrive at the invention.

In particular, claims 2 and 31 all recite (or depend on a claim that recites) "a polymeric positive temperature coefficient device (PPTC) coupled between the voltage input and the load", wherein the "voltage input [is] directly coupled to the AC electrical utility power line". The combined teachings of Doneghue and Morris do not arrive at a

PPTC device that is connected to a voltage input connected to an AC electrical power line.

1. The Proposed Combination

The Examiner admitted that Doneghue does not teach a PPTC device connected between an AC electrical utility power line and a load. (Fourth Post Appeal Action at p.10). Doneghue teaches a fuse coupled between the voltage input and the load. (*Id.*)

To address the deficiency of Doneghue with respect to the PPTC device, the Examiner cited the teachings of Morris. The Examiner alleged that "Morris discloses an over-current protection comprises a PPTC device (407) disposed in an insulating sleeve (409)". The Examiner then stated that it would have been obvious to "have modified the fuse device of Doneghue to incorporate a PPTC device because this PPTC device provides advantages of resetting automatically, high elongation and good cracking resistance." (*Id.*)

Accordingly, the Examiner appears to allege a proposed modification of replacing the fuse 130 of Doneghue with the "over-current protection" circuit of Morris.

2. The Proposed Combination Does Not Arrive at Invention

If one were to replace the fuse of Doneghue with the "over-current protection" circuit of Morris, however, then the resulting device would not include a "(PPTC) coupled between the voltage input and the load", wherein the "voltage input [is] directly coupled to the AC electrical utility power line". In particular, as described further above, Morris teaches a PPTC device that is used as a temperature sensor, and not a PPTC device that is connected as a current-limiting device (or fuse) in a power circuit to a load. (Morris at col. 7, lines 16-34). Morris teaches using the PPTC-generated temperature information to trip a separate circuit breaker device that *is* connected in a power buss to prevent over-current. (*Id.* at lines 26-34).

As a consequence, one of ordinary skill in the art, when applying the teachings of Morris to Doneghue as proposed by the Examiner, would place the fault sensing element 401 of Morris in the power buss of Doneghue in a manner that is similar to the way the element 401 is connected in Morris between the source 415 and load 417 of Fig. 4. With

such an arrangement, the PPTC element 407 of the element 401 would not be connected between between the source and load of Doneghue, because the PPTC element 407 is *not* connected between the source 415 and load 417 of Morris. As discussed above, the PPTC element 407 of Morris is used as an "off-line" temperature sensor that changes its impedance when the conductor 411 heats up. The impedance measurement circuit 403 detects the increased impedance indicative of elevated temperature, and when the temperature exceeds a threshold, it indicates an overcurrent situation. The PPTC element 407 itself is not connected electrically to the circuit being monitored for overcurrent.

Accordingly, even if there was a reason to modify Doneghue to include the over-current protection circuit of Morris, the resulting configuration would not include "a polymeric positive temperature coefficient device (PPTC) coupled between the voltage input and the load", wherein the "voltage input [is] directly coupled to the AC electrical utility power line", as called for in claims 2 and 31. As a consequence, the proposed combination of Doneghue and Morris does not arrive at the claimed invention of claims 2 and 31.

For at least the foregoing reasons, the Board is requested to reverse the obviousness rejection of claims 2 and 31.

E. The Obviousness Rejection of Claim 33

Claim 33 stands rejected as allegedly being obvious over Chaudry and Morris. As will be discussed below, the proposed combination of Chaudry and Morris does not arrive at the invention.

In particular, claim 33 recites (or depend on a claim that recites) "a PPTC coupled in series with the inductor between the voltage input and the load", wherein the "voltage input [is] coupled to the electrical power line". The combined teachings of Chaudry and Morris do not arrive at a PPTC device that is connected to a voltage input connected to an electrical power line.

1. The Proposed Combination

The Examiner admitted that Chaudry does not teach a PPTC device. (Fourth Post Appeal Action at p.10). Chaudry teaches a fuse coupled between the voltage input and

the load. (*Id.*)

To address the deficiency of Doneghue with respect to the PPTC device, the Examiner cited the teachings of Morris. The Examiner alleged that "Morris discloses an over-current protection comprises a PPTC device (407) disposed in an insulating sleeve (409)". The Examiner then stated that it would have been obvious to "have modified the fuse device of Chaudry to incorporate a PPTC device because this PPTC device provides advantages of resetting automatically, high elongation and good cracking resistance." (*Id.* at p.11)

Accordingly, the Examiner appears to allege a proposed modification of replacing the fuse 130 of Chaudry with the "over-current protection" circuit of Morris. As discussed above in connection with the rejections over Doneghue and Morris, employing the Morris over-current protection arrangement to a power buss does not result in a PPTC device coupled in the power buss.

As a consequence, the proposed combination Chaudry and Morris does not arrive at a device that includes "a PPTC coupled in series with the inductor *between the voltage input and the load*", wherein the "voltage input [is] coupled to the electrical power line". The proposed combination of Chaudry and Morris, therefore, does not arrive at the claimed invention of claim 33.

For at least the foregoing reasons, the Board is requested to reverse the obviousness rejection of claim 33.

F. The Obviousness Rejections of Claim 27 and 38

Claims 27 and 38 stand rejected as allegedly being obvious over Kitchens, Tsurunaga, Morris and Carpenter. Claim 27 depends from claim 4. As discussed above, the rejection of claim 4 over Kitchens, Morris and Tsurunaga is in error and should be reversed. The modification of Kitchens, Morris and Tsurunaga proposed by the Examiner in connection with the rejection of claim 27 does not cure the deficiencies of the rejection of underlying claim 4. Accordingly, for at least the same reasons as those set forth above in connection with claim 4, the obviousness rejection of claim 27 is in error and should be reversed.

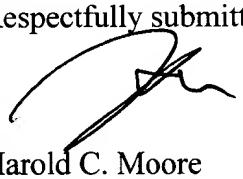
Claim 38 depends from claim 37. As discussed above, the rejection of claim 37

over Kitchens, Morris and Tsurunaga is in error and should be reversed. The modification of Kitchens, Morris and Tsurunaga proposed by the Examiner in connection with the rejection of claim 38 does not cure the deficiencies of the rejection of underlying claim 37. Accordingly, for at least the same reasons as those set forth above in connection with claim 37, the obviousness rejection of claim 38 is in error and should be reversed.

(8) CONCLUSION

For all of the foregoing reasons, claims 2-5, 24-32, 34, 35, 37 and 38 are not unpatentable under either 35 U.S.C. 102(b) or 35 U.S.C. § 103(a). As a consequence, the Board of Appeals is respectfully requested to reverse the rejection of these claims.

Respectfully submitted,



Harold C. Moore
Attorney for Applicants
Attorney Registration No. 37,892
Maginot Moore & Beck
Chase Tower
111 Monument Circle, Suite 3250
Indianapolis, Indiana 46204-5109
Telephone: (317) 638-2922

CLAIM APPENDIX

1. A surge protection apparatus connected between an AC electrical utility power line and a load, comprising:

a voltage input directly coupled to the AC electrical utility power line, the AC electrical utility power line having a nominal AC voltage of at least about 120 volts;

an inductor coupled between the voltage input and the load; and

a protective barrier interposed between the inductor and the load, the protective barrier configured to physically isolate the inductor from the load.

2. A surge protection apparatus connected between an AC electrical utility power line and a load, comprising:

a voltage input directly coupled to the AC electrical utility power line, the AC electrical utility power line having a nominal AC voltage of at least about 120 volts;

an polymeric positive temperature coefficient device (PPTC) coupled between the voltage input and the load; and

a protective barrier interposed between the PPTC and the load, the protective barrier configured to physically isolate the PPTC from the load.

3. An apparatus as claimed in claim 1, further comprising a polymeric positive temperature coefficient device (PPTC) connected in series with the inductor between the voltage source and the load, wherein the protective barrier is configured to physically isolate both the inductor and the PPTC from the load.

4. A surge protection apparatus connected between an electrical utility power line and a load, comprising:

a voltage input directly coupled to the electrical utility power line;

an inductor, a separate resistor, and a polymeric positive coefficient temperature device (PPTC) coupled in series between the voltage input and the load.

5. The surge protection apparatus of claim 4, further comprising a protective barrier interposed between the load and the inductor, the resistor and the PPTC, the protective barrier configured to physically isolate the inductor, the resistor and the PPTC from the load.

24. The surge protection apparatus of claim 5 wherein the protective barrier includes a protective sleeve.

25. The surge protection apparatus of claim 4 wherein the separate resistor has a resistance of at least 10 ohms.

26. The surge protection apparatus of claim 25 wherein the separate resistor has a resistance of approximately 50 ohms.

27. The surge protection apparatus of claim 4 wherein the separate resistor includes axial leads.

28. The surge protection apparatus of claim 4 wherein the inductor is interposed between the voltage input and PPTC.

29. The surge protection apparatus of claim 4 wherein the voltage input is coupled to an AC electrical utility power line.

30. The surge protection apparatus of claim 1 wherein the protective barrier includes a protective sleeve that receives the inductor.

31. The surge protection apparatus of claim 2 wherein the protective barrier includes a protective sleeve that receives the PPTC.

32. A surge protection apparatus connected between an electrical power line source and a load, comprising:

a voltage input coupled to the electrical power line;

an inductor coupled between the voltage input and the load; and

a protective barrier interposed between the inductor and the load, the protective barrier configured to physically isolate the inductor from the load, the protective barrier including a protective sleeve that receives the inductor.

33. The surge protection apparatus of claim 32 further comprising a PPTC coupled in series with the inductor between the voltage input and the load, the PPTC received by the protective sleeve.

34. (Currently amended) A surge protection apparatus connected between an electrical utility power line source and a load, comprising:

a voltage input directly coupled to the electrical utility power line; and

an inductor and a polymeric positive coefficient temperature device (PPTC) coupled in series between the voltage input and the load, the inductor interposed between the PPTC and the voltage input.

35. The surge protection apparatus of claim 34 further comprising:

a protective barrier configured to physically isolate both the inductor and the PPTC from the load.

36. The surge protection apparatus of claim 35 wherein the protective barrier includes a protective sleeve that receives the inductor and the PPTC.

37. A surge protection apparatus connected between an electrical utility power line and a load, comprising:

a voltage input directly coupled to the electrical utility power line;

an inductor, a resistor having a resistance of at least about 10 ohms, and a polymeric positive coefficient temperature device (PPTC) coupled in series between the voltage input and the load.

38. The surge protection apparatus of claim 37 wherein the resistor includes axial leads.

EVIDENCE APPENDIX

This section is empty

[NONE]

RELATED PROCEEDINGS APPENDIX

This section is empty

[NONE]